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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application: Marler, Mark E.
Serial No. 10/501,659
Filing Date: 07/14/2004
Art Unit: 3654
Examiner: Pico, Eric E.
For: ELEVATOR SYSTEM DESIGN INCLUDING
A BELT ASSEMBLY WITH A VIBRATION
AND NOISE REDUCING GROOVE
CONFIGURATION

REPLY BRIEF

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Commissioner for Patents
P. O. Box 1450
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Dear Sir:

This is in reply to the Examiner's Answer that was mailed on June 20, 2007.

A. The Examiner's Arguments Are Not Supported By The Cited References.

The Examiner's interpretation of the *Baranda, et al.* reference includes a fatal error that permeates almost every rejection made by the Examiner. The Examiner incorrectly equates the "steel ropes" of the *Baranda, et al.* reference with the "belt" of the *Baranda, et al.* reference. The *Baranda, et al.* references teaches the opposite. The flat belt of the *Baranda, et al.* reference is an innovation that would be used instead of a steel rope. The two are not the same in the *Baranda, et al.* reference and those skilled in the art would not equate them in the manner the Examiner does.

This is important to recognize up front because the Examiner takes the sheave size only associated with a steel rope from the *Baranda, et al.* reference and attempts to combine that with a flat belt in a

60,469-166
PA-000.05016-US-1

manner that is directly contrary to *Baranda, et al.* teachings. The *Baranda, et al.* reference, as explained in Applicant's opening brief, does not teach using the same sheave size that had been used for steel ropes when using a flat belt. The Examiner incorrectly combines the steel rope accommodating sheave from the background of the *Baranda, et al.* reference with the flat belt of the *Baranda, et al.* reference. As explained in Applicant's opening brief, that combination cannot be made because it is directly contrary to the express teachings of the *Baranda, et al.* reference.

On page 14 of the Examiner's Answer, the Examiner contends that his unreasonable interpretation of the *Baranda, et al.* reference is somehow justified because Applicant's claims do not include the word "flat." It is of no importance whether Applicant's claims include the word "flat." Applicant's point is that the portions of the *Baranda, et al.* reference combined by the Examiner cannot be combined in that way. It matters not what Applicant's claims say at all in this regard. The point is the Examiner's interpretation of the reference is unreasonable because it is contrary to the express teachings of the reference and is contrary to how one skilled in the art would apply the teachings of the *Baranda, et al.* reference.

On page 15 of the Examiner's Answer, the Examiner makes the statement that the reduction of sheave diameter in the *Baranda, et al.* reference "in no way criticizes, discredits, or otherwise discourages the solution a drive sheave ranging from 380 to 64 mm ... *Baranda, et al.*, therefore, in no way teaches away from Yaginuma." The Examiner's argument in this regard again misses the entire point of the *Baranda, et al.* reference. The *Baranda, et al.* reference never teaches a range of sheave diameter from 380 mm down to a reduced sheave diameter. Instead, the *Baranda, et al.* reference expressly teaches eliminating a 380 mm sized sheave and replacing that instead with a much smaller sheave when replacing a traditional steel rope with *Baranda's* flat belt. Therefore, the Examiner's argument does not follow what the reference teaches. Additionally, Applicant

60,469-166
PA-000.05016-US-1

never argues that *Baranda, et al.* teaches away from *Yaginuma*. Applicant has clearly stated the arguments why the Examiner's proposed combination of *Baranda, et al.* and *Yaginuma* cannot be made.

Additionally, the Examiner is wrong about what the resulting ratio of sheave diameter to groove width would be if it were somehow possible to make the distorted, improper combination of the *Baranda, et al.* and *Yaginuma* references. Applicant has explained in its opening brief how even if that combination could be made, the correct interpretation of the teachings of the *Baranda, et al.* reference and the specific mathematical computations applied to that would not result in Applicant's claimed arrangements. Therefore, even if the Examiner's improper interpretation of the *Baranda, et al.* reference could be accepted (although it is directly contrary to the express teachings of the reference), there is no *prima facie* case of obviousness because the combination does not provide a result that is consistent with Applicant's claimed invention.

There are many statements within the Examiner's Answer that are incorrect. Applicant will point out several of them here. By only pointing some of them out, Applicant is not agreeing with any of the Examiner's findings or analysis contained in the Examiner's Answer. Applicant contests all conclusions drawn by the Examiner in this case. Some of the more egregious errors made by the Examiner, however, include the Examiner's statement that "*Baranda, et al.* discloses in the background of the invention *a belt, referred to as steel ropes*, that travels over a drive sheave the diameter D for the sheave being at least 320 mm." (Emphasis added) The *Baranda, et al.* reference does not refer to a belt as a steel rope and there is no belt within the *Baranda, et al.* reference that travels over a drive sheave having a diameter of that magnitude. This statement is made by the Examiner in several places in the Examiner's Answer including paragraph 3 on page 3.

60,469-166
PA-000.05016-US-1

The Examiner also improperly contends that there is a "*belt* disclosed in the background of the invention of Baranda, et al." (Emphasis added) There is no *belt* discussed in the background section of the *Baranda, et al.* reference. Instead, only traditional round ropes are discussed in that section. The flat belt of the *Baranda, et al.* reference is not introduced until the "Disclosure of the Invention" section at the earliest. The Examiner makes this incorrect statement in several places in the Examiner's Answer including paragraph 8 of page 4.

The Examiner improperly contends that the *Baranda, et al.* reference discloses a range of drive sheave from 380 mm to 64 mm based upon what is stated in the *Baranda, et al.* reference in column 1, lines 42-45, and column 7, lines 34-44. This incorrect statement is made, for example, in paragraph 4 on page 3 of the Examiner's Answer. Applicant has already explained in Applicant's opening brief how the statements in column 1, lines 42-45, in column 7, lines 34-44, must be interpreted. There is no disclosure of a range of drive sheaves as contended by the Examiner. Instead, *Baranda, et al.* teaches that you would eliminate a large diameter sheave if you were using *Baranda's* flat belt instead of a traditional round rope. Instead of using a large diametered sheave, one would use a small diameter sheave with *Baranda's* flat belt. There is no such range disclosed or contemplated anywhere within the *Baranda, et al.* reference. Applicant has provided the proper analysis of column 7 of the *Baranda, et al.* reference on pages 9-11 of Applicant's opening brief. As explained there, even if the Examiner's proposed combination could be made, the proper analysis using straightforward mathematics shows that the combination does not provide a result that is the same as Applicant's claimed invention.

Additionally, the Examiner repeatedly incorrectly states, "these steps would result from the design of this device in its normal and expected fashion." There is no basis whatsoever in the record for this statement. A conclusory allegation like that cannot be used as a blanket to cover

60,469-166
PA-000.05016-US-1

over an entire claim limitation that is missing from the cited references. In this case, such statements should be disregarded because there is no basis in any of the references of record nor do they have any basis in common sense. As already explained, the Examiner's interpretation of the *Baranda, et al.* reference ignores the express teachings of that reference. The "normal and expected" fashion of designing a device according to *Baranda's* teachings, for example, would not be anything like what the Examiner proposes to do with the distorted teachings of that reference. Therefore, it is not possible to consider the Examiner's proposed result to be anything close to "normal" or "expected" because it goes directly contrary to the teachings of the reference and the way in which one skilled in the art would apply the teachings of the *Baranda, et al.* and *Yaginuma* references.

B. Some Comments Addressing Specific Rejections

Applicant notes that the Examiner has somewhat changed the scope of the rejection based upon the improper combination of the *Baranda, et al.* and *Yaginuma* references. In the Examiner's Answer, claim 3 is now rejected on these grounds when it was not previously. Claim 3 cannot be considered obvious because the combination cannot be made and there is no *prima facie* case of obviousness as already explained above and in Applicant's opening brief. Additionally, there is nothing even in the proposed combination that comes close to the limitations of claim 3 so that there is no *prima facie* case of obviousness.

The Examiner has still not shown how either of claims 5 or 6 could possibly be considered obvious based upon the proposed combination of *Baranda, et al.* and *Yaginuma*. On page 6, the Examiner admits that the *Baranda, et al.* reference is *silent* concerning an expected speed of elevator cab travel (claim 5) and is *silent* concerning a ratio in a first range for a first expected speed and a second higher range for a second, expected speed (claim 6). The Examiner never

60,469-166
PA-000.05016-US-1

contends that the *Yaginuma* reference provides any such teaching. The Examiner then somehow concludes that the combination yields a result of using an expected speed as recited in claims 5 and 6, respectively. The Examiner's only basis is that "It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable range involves only routine skill in the art." The Examiner cites *In re: Aller*, 105 USPQ 233, in this regard. The problem for the Examiner here is that the "general conditions" of Applicant's claims 5 and 6 are nowhere disclosed in either of the *Baranda, et al.* or *Yaginuma* references. The Examiner admits that the *Baranda, et al.* reference is silent in this regard and makes no contention that the *Yaginuma* reference discloses this in any way. The limitations of claims 5 and 6 are entirely missing from the improper combination of the *Baranda, et al.* and *Yaginuma* references and the rejection of those claims must be reversed.

The Examiner has switched the rejection of claim 7 from being rejected over the improper combination of the *Baranda, et al.* and *Yaginuma* references to being now rejected over the improper combination of the *Baranda, et al.*, *Yaginuma* and *Aulanko, et al.* references. Applicant respectfully traverses this new ground of rejection. As already described, the *Baranda, et al.* and *Yaginuma* references cannot be distorted and then combined as proposed by the Examiner. Further, there is no reason to incorporate the teachings of *Aulanko, et al.* into the improper combination. There is no *prima facie* case of obviousness against claim 7.

With regard to the rejection of claims 8, 13, 14 based upon the proposed combination of the *Baranda, et al.*, *Yaginuma* and *Hull* references, Applicant has already, in its opening brief, thoroughly explained where there is no *prima facie* case of obviousness in that regard.

With regard to the rejection of claims 15 and 16, Applicant has already adequately explained why those claims cannot be rejected over the proposed combination of the *Baranda, et*

60,469-166
PA-000.05016-US-1

al. and *Hull* references. The Examiner's alleged motivation for making the improper combination of the *Baranda, et al.* and *Hull* references supposedly comes from column 1, lines 32-44 of the *Hull* reference. Improving belt life in the context of the *Hull* reference does not have any usefulness in the context of the *Baranda, et al.* reference. Moreover, it is directly contrary to the teachings of the *Yaginuma* reference. The *Hull* reference includes grooves that contact the pulleys of the *Hull* reference to enhance flexibility of *Hull's* belt because it uses very small diameter pulleys. If you added those kinds of grooves, that would introduce undesirable noise, which is why *Yaginuma* had to take its approach to reducing noise. Moreover, as already explained in Applicant's opening brief, the *Baranda, et al.* reference itself teaches how the *Baranda, et al.* belt is already much more flexible than the traditional round rope (e.g., the *Baranda, et al.* belt is capable of being wrapped around a smaller diameter sheave compared to the much larger sheaves used for round ropes). There is no need to add flexibility to the *Baranda, et al.* belt by incorporating grooves taught by *Hull* especially when those grooves are going to introduce the type of noise that is undesirable in an elevator system (as explained by the *Yaginuma* reference).

There is no motivation (i.e., no reason) for making the proposed combination because it would provide undesirable results and because there is no benefit to making the proposed combination. The Examiner's reference to the nature of the problem to be solved or knowledge or persons of ordinary skill in the art does not somehow rescue the improper combination of the *Baranda, et al.* and *Hull* references. The proposed combination provides a result that is contrary to a desired result in that it introduces an additional source of noise, which is not desired within elevator systems. The art of record explains this.

With regard to the rejection of claim 17 based upon the *Hull* reference, the Examiner contends that there is a suggestion to modify *Hull* "from knowledge generally available to one of

60,469-166
PA-000.05016-US-1

ordinary skill in the art that additional material increases the lifespan." That conclusion is baseless and finds no support within the art of record. Additionally, that conclusion is contrary to the Examiner's reasoning when proposing to modify *Baranda, et al.* with *Hull*. On the one hand, the Examiner contends that removing material (e.g., adding grooves from *Hull*) would improve belt life when attempting to use the *Hull* reference for rejecting claims 15 and 16. On the other hand, when trying to use the *Hull* reference for rejecting claim 17, the Examiner contends that additional material would improve belt life by "providing a longer lifespan." Using the *Hull* reference in this way is like dealing from both sides of the deck. Moreover, neither conclusion is true and neither is supported by the art of record. The rejection of claim 17 must be reversed.


For all of the reasons in Applicant's opening brief and those provided above, all rejections must be reversed.

Respectfully submitted,

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August 20, 2007

Date



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CERTIFICATE OF FACSIMILE

I hereby certify that this Reply Brief, relative to Application Serial No. 10/501,659, is being facsimile transmitted to the Patent and Trademark Office (Fax No. (571) 273-8300) on August 20, 2007.



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